

Amendments to the Claims

This listing of claims will replace the originally filed claims in the application.

Listing of Claims:

Claims 1 – 17 (cancelled)

Claim 18 (currently amended): A method which may be used for freezing a food product, said method comprising:

- a) freezing at least one surface of [[a]] the food product, wherein said freezing:
 - 1) comprises bringing said food product into contact with a refrigerating surface;
 - 2) takes place in a treatment container; and
 - 3) results from the use of a vibrating support and a film of a cryogenic liquid placed on said vibrating support;
- b) providing a first heated temperature probe at a location immediately prior to the an exit of said food product[[s]] from said treatment container, wherein said first heated temperature probe measures a temperature at its location;
- c) providing a cryogenic liquid supply system, wherein said cryogenic liquid supply system comprises a proportional valve; and
- d) providing a first data acquisition and processing unit which receives temperature information from said first heated temperature probe, and which can control the an opening of said proportional valve.

Claim 19 (currently amended): The method of claim 18, wherein:

- a) said vibrating support comprises a slight downward slope and ends in a slight rise;
- b) said vibrating support is capable of containing a quantity of said cryogenic liquid; and
- c) said first heated temperature probe is located approximately at a point where said cryogenic liquid accumulates.

Claim 20 (previously presented): The method of claim 18, wherein said vibrating support has an upward slope.

Claim 21 (currently amended): The method of claim 20, further comprising providing a grill, wherein:

- a) said grill is substantially located on said refrigerating surface of said vibrating support; and
- b) said grill removes at least part of said cryogenic liquid from said food products as said food products pass over said grill.

Claim 22 (currently amended): The method of claim 18, further comprising:

- a) providing a product temperature probe, wherein said product temperature probe:
 - 1) is located in the passage of said food products at an exit of said treatment container; and
 - 2) measures said a product temperature after treatment freezing; and
- b) providing a second data acquisition and processing unit, wherein said second data acquisition and processing unit:
 - 1) receives temperature information from said product temperature probe; and
 - 2) controls at least one member selected from the group consisting of:
 - i) ~~the an~~ inclination slope of said vibrating support;
 - ii) ~~the a~~ frequency of vibration of said vibrating support; and
 - iii) the opening of said proportional valve.

Claim 23 (currently amended): The method of claim 18, further comprising:

- a) providing a safety temperature probe in said treatment container, wherein said safety temperature probe:
 - 1) is located slightly in front of said food product's exit from said treatment container; and
 - 2) measures a temperature at its location;
- b) providing an on/off valve for said cryogenic liquid supply system; and
- c) providing a third data acquisition and processing unit, wherein said third data acquisition and processing unit:
 - 1) receives temperature information from said safety temperature probe; and
 - 2) can control said on/off valve in order to open or close said on/off valve.

Claim 24 (currently amended): The method of claim 23, wherein said safety temperature probe is a heated probe.

Claim 25 (previously presented): The method of claim 18, wherein said cryogenic liquid comprises liquid nitrogen.

Claim 26 (currently amended): The method of claim 24, wherein:

- a) said safety temperature probe or said first heated temperature probe is a double probe comprising a first and a second resistor;
- b) said first resistor is connected to an instrument which measures resistance and deduces said temperature from a conversion table; and
- c) said second resistor is supplied with a voltage which generates heat.

Claim 27 (currently amended): An apparatus which may be used to freeze a product, said apparatus comprising:

- a) a treatment container for at least one product, wherein said treatment container comprises:
 - 1) a vibrating support capable of receiving a film of a cryogenic liquid;
 - 2) an inlet; and
 - 3) an outlet;
- b) a first heated temperature probe located before said outlet, wherein said first heated temperature probe measures a temperature at its location;
- c) a supply system for said cryogenic liquid, wherein said supply system comprises a proportional valve; and
- d) a first data acquisition and processing unit, wherein said first data acquisition and processing unit is capable of:
 - 1) receiving temperature information from said first heated temperature probe; and
 - 2) controlling the an opening of said proportional valve.

Claim 28 (previously presented): The apparatus of claim 27, wherein said product comprises a food product.

Claim 29 (currently amended): The apparatus of claim 27, wherein:

- a) said vibrating support comprises a slight downward slope and ends in a slight rise;

- b) said vibrating support is capable of containing a quantity of said cryogenic liquid; and
- c) said first heated temperature probe is substantially located at a point where said cryogenic liquid accumulates.

Claim 30 (previously presented): The apparatus of claim 27, wherein said vibrating support has an upward slope.

Claim 31 (previously presented): The apparatus of claim 30, further comprising a grill substantially located on a surface of said vibrating support, wherein said grill is capable of filtering at least part of said cryogenic liquid contained in said product as said product passes over said grill.

Claim 32 (currently amended): The apparatus of claim 27, further comprising:

- a) a product temperature probe located near said outlet, wherein said product temperature probe is capable of measuring a temperature of said product as it leaves said treatment unit container; and
- b) a second data acquisition and processing unit, wherein said second data acquisition and processing unit:
 - 1) receives temperature information from said product temperature probe; and
 - 2) controls at least one member selected from the group consisting of:
 - i) the an inclination slope of said vibrating support;
 - ii) the a frequency of vibration of said vibrating support; and
 - iii) the opening of said proportional valve.

Claim 33 (currently amended): The apparatus of claim 27, further comprising:

- a) an on/off valve for said cryogenic liquid supply system;
- b) a safety temperature probe located near said outlet, wherein said safety temperature probe is capable of measuring a temperature at its location; and
- c) a third data acquisition and processing unit, wherein said third data acquisition and processing unit:
 - 1) is capable of receiving temperature information from said safety temperature probe; and
 - 2) is capable of controlling the opening or closing of said on/off valve.

Claim 34 (previously presented): The apparatus of claim 33, wherein said safety temperature probe is a heated probe.

Claim 35 (currently amended): The apparatus of claim 34, wherein:

- a) said safety temperature probe or said first heated temperature probe is a double probe comprising a first and a second resistor;
- b) said first resistor is connected to an instrument which measures resistance and deduces said temperature from a conversion table; and
- c) said second resistor is supplied with a voltage which generates heat.

Claim 36 (currently amended): An apparatus which may be used to freeze a product, said apparatus comprising:

- a) a treatment container for at least one product, wherein said treatment container comprises:
 - 1) a vibrating support capable of receiving a film of a cryogenic liquid;
 - 2) an inlet; and
 - 3) an outlet;
- b) a first heated temperature probe located before said outlet, wherein said first heated temperature probe measures a temperature at its location;
- c) a supply system for said cryogenic liquid, wherein said supply system comprises a proportional valve;
- d) a first data acquisition and processing unit, wherein said first data acquisition and processing unit is capable of:
 - 1) receiving temperature information from said first heated temperature probe; and
 - 2) influencing the an opening of said proportional valve;
- e) a product temperature probe located near said outlet, wherein said product temperature probe is capable of measuring a temperature of said product as it leaves said treatment unit-container;
- f) a second data acquisition and processing unit, wherein said second data acquisition and processing unit:
 - 1) receives temperature information from said product temperature probe; and
 - 2) controls at least one member selected from the group consisting of:
 - i) the an inclination slope of said support;
 - ii) the a frequency of vibration of said support; and
 - iii) the opening of said proportional valve;

- g) an on/off valve for said cryogenic liquid supply system;
- h) a safety temperature probe located near said outlet, wherein said safety temperature probe is a heated probe capable of measuring a temperature at its location; and
- i) a third data acquisition and processing unit, wherein said third data acquisition and processing unit:
 - 1) is capable of receiving temperature information from said safety temperature probe; and
 - 2) is capable of influencing the an opening or closing of said on/off valve.

Claim 37 (currently amended): The apparatus of claim 36, wherein:

- a) said safety temperature probe or said first heated temperature probe is a double probe comprising a first and a second resistor;
- b) said first resistor is connected to an instrument which measures resistance and deduces said temperature from a conversion table; and
- c) said second resistor is supplied with a voltage which generates heat.